AMENDMENTS TO THE CLAIMS

<u>Listing of the claims:</u>

Following is a listing of all claims in the present application, which listing supersedes all previously presented claims:

1. (Currently Amended): A robot comprising:

a motion unit;

an array of detectors supported by the motion unit;

a memory device storing data corresponding to at least one counter configured to determine a time value <u>associated with a detection of the array of detectors</u>;

an infrared sensor operatively coupled to the memory device, the infrared sensor including: (a) an infrared light source configured to produce a plurality of pulses of infrared light directed toward an environment of the robot; <u>and</u> (b) at least one optics configured to focus a plurality of reflections of the infrared light pulses from the environment of the robot to the array of detectors <u>causing the detection of the array of detectors</u>; and

at least one processor operatively coupled to the memory device, the processor operable to determine distance information based at least in part on the determined time value.

2. (Previously Presented): The robot of claim 1, where the determined distance information is produced by measuring a period of time to receive a reflected pulse and the at least one processor

is operable to determine a feature of the environment based at least in part on the determined distance information.

3. (Previously Presented): The robot of claim 1, where the determined distance information is produced by measuring an energy of a reflected pulse up to a cutoff time.

4. (Previously Presented): The robot of claim 2, wherein the feature is indicated in an internal map.

5. (Previously Presented): The robot of claim 2, wherein the feature is a step.

6. (Previously Presented): The robot of claim 2, wherein the feature is an object in a room.

7. (Original): The robot of claim 1, wherein the robot is a robot cleaner.

8. (Currently Amended): A method comprising:

storing data in a memory device of a robot, the ~~data~~memory device corresponding to at least one counter configured to determine a time value associated with a detection of an array of detectors;

producing a plurality of pulses of infrared light directed toward an environment of the robot;

focusing with at least one optic a plurality of reflections of the infrared light pulses from the environment of the robot to ~~an~~ the array of detectors causing the detection of the array of detectors; and

processing the determined time value to determine distance information based at least in part on the determined time value.

9. (Previously Presented): The method of claim 8, wherein the determined distance information is produced by measuring the time to receive a reflected pulse and; including determining a feature of the environment based at least in part on the determined distance information.

10. (Previously Presented): The method of claim 8, wherein the determined distance information is produced by measuring the energy of a reflected pulse up to a cutoff time.

11. (Previously Presented): The method of claim 9, wherein the feature is indicated in an internal map.

12. (Previously Presented): The method of claim 9, wherein the feature is a step.

13. (Previously Presented): The method of claim 9, wherein the feature is an object in a room.

14. (Previously Presented): The method of claim 8, wherein the robot is a robot cleaner.

15. (Currently Amended): A robot comprising:

a motion unit;

an array of detectors supported by the motion unit;

a memory device storing data corresponding to at least one counter configured to determine a time value associated with a detection of the array of detectors;

an infrared light source operatively coupled to the memory device and configured to produce a plurality of pulses of infrared light directed toward an environment of the robot;

at least one optic operably coupled to the memory device and configured to focus a plurality of reflections of the infrared light pulses from the environment of the robot to the array of detectors causing the detection of the array of detectors; and

at least one processor operatively coupled to the memory device, the processor operable to determine distance information based at least in part on the determined time value.

16. (Previously Presented): The robot of claim 15, wherein the determined distance information is produced by measuring a period of time to receive a reflected pulse and the at least one processor is operable to determine a feature of the environment based at least in part on the determined distance information.

17. (Previously Presented): The robot of claim 15, wherein the determined distance information is produced by measuring an energy of a reflected pulse up to a cutoff time.

18. (Previously Presented): The robot of claim 16, wherein the feature is indicated in an internal map.

19. (Previously Presented): The robot of claim 16, wherein the feature is a step.

20. (Previously Presented): The robot of claim 16, wherein the feature is an object in a room.

21. (Original): The robot of claim 15, wherein the robot is a robot cleaner.

Claims 22-23 (Canceled)

24. (Currently Amended): A method comprising:

storing data in a memory device of a robot, the data~~memory device~~ corresponding to at least one counter configured to determine a time value associated with a detection of an array of detectors;

producing a plurality of pulses of infrared light directed toward an environment of the robot;

focusing with at least one optic a plurality of reflections of the infrared light pulses from the environment of the robot to ~~an~~ the array of detectors causing the detection of the array of detectors; and

processing the determined time value to determine the distance information based at least in part on the determined value.

25. (Previously Presented): The method of claim 24, including determining a feature of the environment based at least in part on the determined distance information.

26. (Previously Presented): The method of claim 24, wherein the determined distance information is produced by measuring the time to receive a reflected pulse.

27. (Previously Presented): The method of claim 24, wherein the determined distance information is produced by measuring the energy of a reflected pulse up to a cutoff time.

28. (Previously Presented): The method of claim 25, wherein the feature is indicated in an internal map.

29. (Previously Presented): The method of claim 25, wherein the feature is a step.

30. (Previously Presented): The method of claim 25, wherein the feature is an object in a room.

31. (Original): The method claim 24, wherein the robot is a robot cleaner.

Claims 32-33 (Cancelled)